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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,665	12/31/2003	Chien-Hsing Lee	10755-US-PA	1664
31561	7590	09/09/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			NGUYEN, VIET Q	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/707,665	LEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Viet Q. Nguyen	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Election filed on 8/29/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☒ Claim(s) 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

1. In response to applicant's request, group 2 claims are now rejoined with group 1 claims, and so that claims 1-12 are all present for examination.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by **Caywood (US 5,790,455)**.

Regarding claim 6, **Caywood (see Fig. 7)** clearly shows a non-volatile memory cell structure having a first MOS transistor (MOSFET 64-00, for the first bit line/column 0) transistor with first doped electrode or node (as bottom node) coupled to a bit line (0), a gate electrode, and a second doped electrode (as top node), where it is further connected to the bottom electrode of a second claimed MOS transistor (62-00). Additionally, such second claimed floating-gate MOS transistor (62-00) is seen as having its first S/D region or line (bottom side) coupled to the top/second electrode (from said first MOS transistor 64-00), and a second S/D region or line (top side) coupled to a first voltage terminal (from the voltage feed of the control line 0), and a

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floating gate coupled to one MOS capacitor 76-00. And Fig. 11 also shows said MOS capacitor device (76-00), having its drain-source tied together, and having its gate-capacitor electrode/node coupled to the floating gate of said second floating-gate MOS transistor (62-00), and its substrate-capacitor electrode is coupled to a second voltage terminal (CapWell line/potential) as recited.

Regarding claims 7-8, Table 1 on col. 7 shows the respective voltage values applied to the bit line, word line, and control line of such memory cell so that hot electrons could be injected into the floating gate during programming process as recited.

3. Other claims contain ***allowable subject matter*** over the prior arts of record for the following reasons:

- Independent claim 1 and all its dependent claims 2-5 recite the specific use of two adjacent MOS transistor with respective gate tied to the corresponding MOS capacitors that are also shared and coupled to the adjacent cells, which are not either shown or fairly suggested elsewhere;
- Dependent claims 9-12 are objected as being dependent upon the rejected base claim 6, however, are allowable because they recite particular voltage values (used for the cell read and erase process) that are not seen elsewhere.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Nguyen whose telephone number is (571) 272-1788. The examiner can normally be reached on 7am-6pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



V. Nguyen  
9/03/2005



**VIET Q. NGUYEN**  
**PRIMARY EXAMINER**